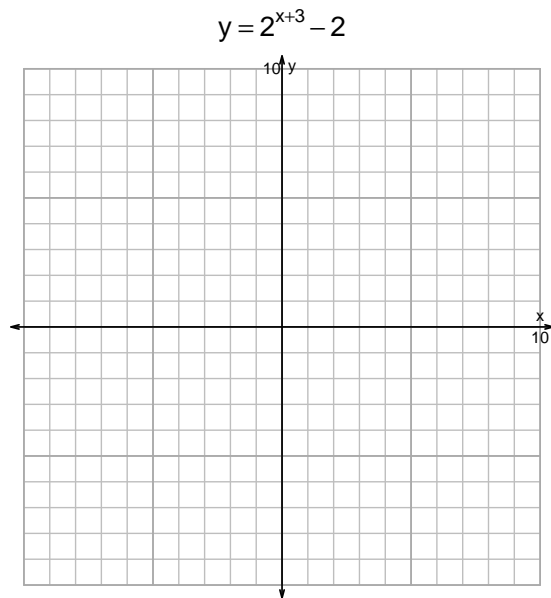
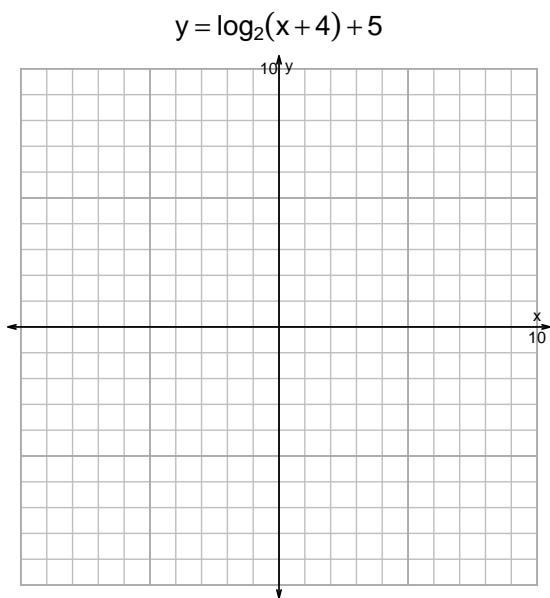


Name: _____

Date: _____

s18: EXP LOG (QUIZ v311)

1. (10 pts) Graph $y = \log_2(x + 4) + 5$ and $y = 2^{x+3} - 2$ on the grids below. Also, draw any asymptotes with dashed lines.

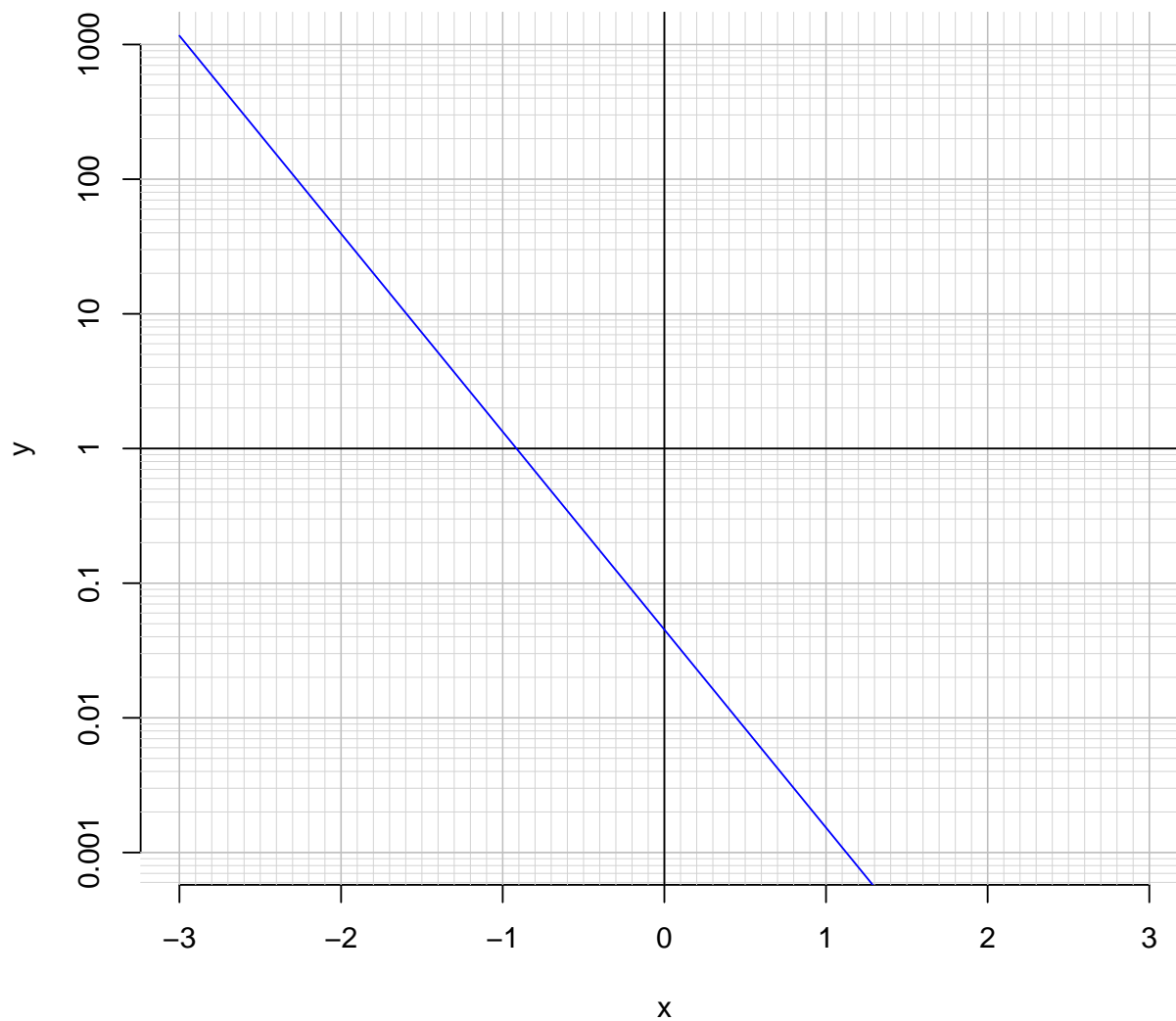


Somewhat useful hint: $2^3 = 8$, and thus $\log_2(8) = 3$.

2. (10 pts) Write (but do not evaluate) the solution to the equation below by writing a logarithmic expression. Please do not do any arithmetic; just move numbers around.

$$-11 = \left(\frac{-5}{7}\right) \cdot 2^{-4t/3}$$

3. (10 pts) An exponential function $f(x) = 0.0452 \cdot e^{-3.39x}$ is graphed below on a semi-log plot.



- a. Using the plot above, evaluate $f(-2.6)$.

- b. The inverse function is logarithmic.

$$f^{-1}(x) = \frac{-1}{3.39} \cdot \ln\left(\frac{x}{0.0452}\right)$$

Using the plot above, evaluate $f^{-1}(20)$.